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**THE PHASIINAE (DIP.: TACHINIDAE) OF KENT WITH A CONFIRMED  
HOST FOR *HEMYDA VITTATA* (MEIGEN, 1824)**

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ROBERT BELSHAW'S Royal Entomological Society *Handbook* on tachinid flies (Belshaw, 1993) provided a much needed concise treatment of the British Tachinidae, particularly as regards the known distribution and hosts of the species. The subfamily Phasiinae contains just twenty-one known British species and, where the life history is known, they are all parasitoids of heteropteran bugs. Thirteen species have so far been recorded from the Watsonian vice-counties of Kent – i.e. 16 (West Kent) and 15 (East Kent) – and here I provide details of all that are known to me.

Where no recorder has been acknowledged the records are my own. Grid references which appear in brackets are my own approximations and were not given by the original collector. Tetrad (2 x 2 km square) letters follow the DINTY system. The status given by each species is based on Falk (1991). The scientific names of flowering plants mentioned are based on Clapham, Tutin and Warburg (1962) whilst the nomenclature of bugs follows Kloet and Hincks (1964).

*Cinochira atra* Zetterstedt, 1845

This small black fly was listed by Yerbury (1908) under the name *Melanophora atra* from Bearsted (TQ75/TQ85). Later, during the Blean Woods (TR16) survey in 1964, further specimens were obtained by D.M. Ackland between 7 and 11 September. Chandler (1976) referred to one taken in a house at Bromley (TQ46) on 18 August 1966. The latter has recently informed me that he also took the species at Pett's Wood, Chislehurst (TQ46) on 23 September 1974.

26 September 1983 Claypits Wood, Dunkirk TR0759 swept over leaf litter in woodland on clay; 24 June 1989 Hurst Wood TQ9348; 30 July 1992 Motney Hill, Rainham TQ825677 swept in *Phragmites* swamp; 28 August 1994 Mereworth Woods TQ663553; 26 May 1997 Foal Hurst Wood TQ6544 swept from coarse vegetation in dense scrub; 11 June 1997 Covert Wood TR182494 along damp shady ride; 12 July 1997 Yalding Fen TQ683499 swept from vegetation growing beneath willows *Salix* spp.

The larvae of *Cinochira atra* seem to be dependant on lygaeid bugs. Eyles (1962) found it to be an occasional parasite of *Scolopostethus thomsoni* Reuter, 1874, *S. decoratus* (Hahn, 1833), *Drymus sylvaticus* (Fabricius, 1775) and *D. brunneus* (Sahlberg, 1848). These bugs inhabit a variety of situations. *S. thomsoni* is readily found by sweeping nettles, *S. decoratus* by grubbing around heather and the *Drymus* species by sieving litter and pitfall trapping. Whilst Belshaw (1993) cited Chandler's impressions that the fly is characteristic of low vegetation in woodlands, my records from Motney Hill and Yalding fen add marshland (coastal and inland respectively). *Cinochira atra* was not awarded a status by Falk (1991) although Dr A.C. Pont (*pers.comm.*) believes that it should currently be regarded as notable.

*Cylindromyia interrupta* (Meigen, 1824)

First recorded from the county in 1896 by A.J. Chitty on the basis of a male taken at Doddington (TQ95) (Smith and Bates, 1956), it was some fifty years before the next specimen was taken by H.W. Andrews on 30 June 1945 at Eynsford (TQ5365). Uffen (1961) stated "... was numerous amongst mixed vegetation between regenerating aspens at Ham Street, Kent 14.vi.1958" (TR0033).

28 May 1988 Shorne Woods Country Park TQ684702 1 male taken by sweeping a *Juncus* dominated damp flush; 3 August 1996 Birchett Wood, Orlestone Forest TQ987359 1 female taken by general sweeping along an open ride; 1 June 1997 Mereworth Woods TQ644556 1 male obtained by sweeping low vegetation in a woodland clearing.

Andrewes (1966) recorded *Cylindromyia interrupta* from a willow and birch copse at Barnridge, Wiltshire on 11 June 1964 and 3 July 1965 whilst Edwards (1956) recorded it in the more open parts of Bottom Wood, Hertfordshire on 9 August 1955. My records support the view that the fly is to be found in woodland clearings. Dr A.C. Pont (*pers.comm.*) has assessed the current status of the species to be notable and says that it is a species of rough grassland and open scrub.

Belshaw (1993) cited palaeartic rearing records from the pentatomid bug *Dolycoris baccarum* (Linnaeus, 1758) for the related *C. brassicaria* (Fabricius, 1775) and this may well apply to *C. interrupta* since this bug was abundant in each of the three sites where I found the fly. Southwood and Leston (1959) state that the bug "occurs commonly in the flowery margins of woodlands" and this habitat also matches my records for the fly.

*Cylindromyia interrupta* is another species not assigned a status by Falk (1991) and which Dr Pont has classified as notable.

*Gymnosoma nitens* Meigen, 1824 (RDB1)

*Gymnosoma nitens* was added to the British list by Clark (1958) on the basis of a female taken at Happy Valley, Boxhill, Surrey on 8 July 1956. Belshaw (1993) repeated this as the only recorded site for this species. Plant, in Plant and Smith (1996) referred to the capture of a single specimen on 2 July 1995 at Richborough Power Station near Sandwich (TR3362) in East Kent.

Some ten years prior to this on 20 July 1985 I encountered large numbers of the species at Lydden Hill near Dover TR252462. Ten specimens (four females and six males) were retained from swarms swept mainly from Hoary Ragwort *Senecio erucifolius* L. at about 19.30 hours. There had been substantial rain earlier in the afternoon (cf. Plant's statement "The fly was swept at around mid-day in a light drizzle...") although at the time the vegetation had dried out. The site at Lydden Hill is a chalk cutting beside the A2 which has been heavily seeded by the county highways department. A further female was discovered at Trosley Country Park TQ6461 at about 12.30 on 20 July 1996. The specimen was seen, and captured, feeding from a central floret of Hogweed *Heracleum sphondylium* L. in dappled shade and the weather was hot and sunny. Lydden Hill and Trosley Country Park both fit with Plant and Smith's observations that the fly is to be found in predominantly calcareous regions.

Clark (1958) cited the following heteropteran hosts for *Gymnosoma nitens*: *Aelia acuminata* (Linnaeus, 1758), *Eurygaster testudinaria* (Geoffroy, 1785), *Sciocoris cursitans* (Fabricius, 1794), *Piezodorus lituratus* (Fabricius, 1794), *Stollia* (= *Eysarcoris*) *fabricii* (Kirkaldy, 1904) and perhaps *Spathocera dahlmanni* (Schilling, 1829). Belshaw (1993), however, listed only *Sciocoris cursitans* and the non-British *Sciocoris helferi* (Fabricius) as hosts.

*Gymnosoma rotundatum* (Linnaeus, 1758) (RDB3)

There is a single specimen of *Gymnosoma rotundatum* in the Dale collection at the Hope Department, Oxford without date from Swanscombe (TQ57). This seems to be a species of dry areas on downland and heathland and hence could be found elsewhere in the county, especially if "*Palomena* spp" are hosts as stated by Belshaw (1993).

*Hemyda vittata* (Meigen, 1824) (RDB3)

Added to the British list on the basis of a male found resting on a wild strawberry flower at the edge of a clearing in Whippendell Wood, Watford, Herts on 12 May 1956 by S.D. Barfoot (Barfoot, 1957). He cited F.I. Van Emden's information that the species had been reared several times on the continent from the pentatomid bug *Arma custos* Hahn and this fact was repeated by Smith (1989) and Belshaw (1993). The latter also questioned *Troilus luridus* as a host.

On 26 May 1987 I swept a single female of *Hemyda vittata* from young Silver Birch *Betula pendula* Roth trees around one of the pits in Ham Street Woods NNR TR0033 and this remained my only record until recently. Whilst generally recording insects at Covert Wood near Canterbury TR182494 on 11 June 1997 a specimen of the pentatomid bug *Troilus luridus* (Fabricius, 1775) was swept. As this is not an insect which I frequently see it was retained alive in an individual tube until it could be processed and added to the reference collection. On 13 June the bug was found to have died and a chestnut-brown puparium measuring about 5.5mm long was noted attached to the bottom of the tube. This was retained and on 28 June a male *Hemyda vittata* emerged. The larval mouthparts were recovered from the cap of the puparium and part of these is illustrated in figure 1. The posterior spiracles are depicted in figure 2.

*Litophasia hyalipennis* (Fallén, 1815) (Extinct).

Still only known in Kent from 1 male taken on 9 August 1987 along a track at Solomon's Farm, near Kingsnorth TQ7874 and 1 female taken on 9 August 1991 in a chalk quarry at Northfleet TQ630742 (Clemons, 1992). Dr J.W. Ismay has since found it in South Essex and Dr A.C. Pont (pers.comm.) has downgraded it to RDB2 status.

*Lophosia fasciata* Meigen, 1824 (Notable).

Wainwright (1940) recorded specimens from Ham Street (TR0033) and Soakham Down (TR0349) and these are preserved in the collections of the Natural History

Museum, London with the dates 5 August 1938 and 6 August 1938 respectively. A further specimen was taken by K.C.Side at Ellenden Wood TR16B on 6 May 1974. Allen (1987 and 1992) recorded rearing the species on 2 July 1986 from a specimen of the hawthorn shieldbug *Acanthosoma haemorrhoidale* L. taken at Oxleas Wood SSSI (TQ4475) on 13 June 1986.

To date my sole encounter with this species rests on a female found dead in a spider's web along a chalk track beside Park Wood, Chilham TR042524 on 25 July 1982.

*Phania funesta* (Meigen, 1824)

This seems to be by far the the most widespread of the local Phasiinae although Day (1948) regarded it as rare and, of two recorded sites, had apparently seen details only of J.W. Yerbury's specimens from Gravesend (TQ67) taken in 1907 and 1908. The pioneer British dipterist G.H. Verrall stated (1912) "*Weberia thoracica* is not very uncommon, but I have seen only one specimen of *W. curvicauda* which was taken by Col. Yerbury at Gravesend on June 27th, 1908". There are further specimens of Yerbury's in the Natural History Museum, London from Gravesend dated 2 August 1907. H.W.Andrews recorded it widely in vice-county 16 between 1912 and 1939 thus: 18 May 1912 Thames Marshes (TQ5675); 1 August 1931 Thames Marshes (TQ5675); 11 June 1932 Dartford (TQ57); 22 May 1934 Thames Marshes (TQ5675); 11 July 1935 Crayford (TQ57); 5 August 1935 Eynsford (TQ5365) 14 May 1938 Wrotham (TQ6159) and 15 July 1939 Allhallows (TQ8378). C.J. Wainwright encountered it at Oare (TR0062) on 3 August 1937. Fonseca (1951) recorded it from Sholden near Deal (TR3552) on 5 August 1950 and stated "In the Sholden district, also, a small patch of common chamomile (*Anthemis nobilis* L.) was attracting large numbers of the curious little Tachinid *Weberia pseudofunesta* Villeu. Males predominated but several females were found amongst the catch, the first I had seen of this sex." The collections in the Natural History Museum, London contain two specimens labelled "Sholden E. Kent 5.viii.1950" and "Sholden E. Kent 6.viii. 1950" in Fonseca's handwriting plus a further 22 bequeathed in 1988 with the printed data "Sholden Kent. E. 5-11.viii.50". There is also a specimen with the printed label "14.viii.50 St. Margaret Kent. E.E.A. Fonseca". A series of specimens from Hythe (TR13) in the G. Waller collection at Maidstone Museum and Art Galleries bears the dates 13 June 1976 and 1 June, 13 June, 16 June, 16 July, 2 August, 9 August, 11 August and 18 August 1977. In the card index at Maidstone Museum and Art Galleries there is a single record pertaining to K.C. Side from Cliffe Marshes TQ77J on 19 July 1974.

11 July 1982 Murston TQ922646; 17 July 1982 Murston TQ9164; 17 June 1983 Stonelees TR338623; 27 July 1983 Cliffsend, Ramsgate TR3564; 2 June 1984 Murston TQ922646; 6 August 1984 Canterbury Golf Course TR174593; 26 July 1987 Kingsnorth TQ817724; 1 August 1987 Stoke TQ838754; 9 August 1987 Solomon's Farm, near Kingsnorth TQ7874; 17 August 1987 Kingsnorth TQ796722; 19 August 1987 Kingsnorth TQ8272; 21 May 1988 Sladden Wood

TR258428; 24 June 1989 Lenham Heath sandpit TQ9149; 9 August 1991 Northfleet TQ630742; 4 June 1993 Hale Street ponds TQ6749; 26 June 1993 Old Park, Canterbury TR168589; 6 August 1993 Bingley's Island, Canterbury TR142576; 29 May 1995 Fordwich TR187603; 7 July 1996 Church Marshes, Milton TQ9165; 12 July 1997 Yalding Fen TQ683499; 16 August 1997 Crossness Nature Reserve TQ4980.

Belshaw (1993) gave little information regarding the biology of *Phania funesta* other than that there is a European record from the cydnid bug *Legnotus limbosus* (Geoffroy, 1785). Southwood and Leston (1959) stated that *Legnotus limbosus* feeds on goosegrass, lady's bedstraw and other bedstraws and that "it occurs on flowery banks, in dry grassy places and in the top soil of dry earth banks, apparently preferring a fine sand.". The bug is of widespread distribution in Kent, although I have personally taken it only in the driest of localities. Whilst the majority of my localities are dry grassland the occurrence of *Phania funesta* in damp sites such as at Hale Street Ponds and Yalding Fen could signify that it develops in other bugs.

#### *Phasia thoracica* Meigen, 1924 (RDB3)

Wainwright (1928) mentioned that the species was taken in Mains Wood, Herefordshire by J.H. Wood and at Guestling, Sussex by E.N. Bloomfield and these records were repeated by Van Emden (1954). Belshaw (1993) added Abbots Wood, Hants and Blean, Kent (TR10). I have been unable to trace details of the latter record although Dr A.C. Pont has informed me that it was taken from the National Nature Reserve in 1966. Despite the statement by Verrall (1912) mentioned in reference to *Phania funesta* *Phania thoracica* is not at all common nationally and thus his opinion on its abundance was most likely based on a misidentification.

#### *Phasia hemiptera* (Fabricius, 1794)

Belshaw (1993) referred to at least 50 records having been accumulated during the preparation of his Handbook although these must in part be due to the impressive appearance of the male which renders it noticeable to general naturalists. Certainly the collections of the Natural History Museum in London contain a long series of this fly, but from relatively few localities.

Curtis (1823-1840) stated that it was "taken I believe near Darent in Kent" and since then there have been few sightings in the county. In the Natural History Museum, London there are four males collected by R.B. Benson from Ham Street Woods (TR0033) between 3 and 6 July 1946, whilst in the G. Waller collection housed in Maidstone Museum and Art Galleries there is a single male with the label "River near Dover 30 July 1946 on umbelliferae" (TR2843). The card file index at the latter institution contains a single record submitted by Mr A.V. Measday and dated 25 May 1986 from Tunbridge Wells TQ53U. More recently at the annual exhibition of the Kent Field Club on 9 November 1996 Mr J.S. Badmin showed a male taken in his garden at Downwell, Selling (TR085539) on



22 August 1996. There is anecdotal evidence from Mr M. Brown that it has occurred at Hoads Wood near Ashford (TQ9542).

21 July 1995 Downwell, Selling TR085539 1 female on flowers of *Bupleurum fruticosum* L.; 20 July 1997 Iden Croft Herbs, Staplehurst TQ792424 1 male feeding on flowers of *Mentha* sp.; 2 August 1997 Dering Wood, Pluckley TQ89954450 1 male flying amongst low bramble foliage.

From the paucity of local records *Phasia hemiptera* is largely to be found in or around clearings in ancient wooded districts.

#### *Phasia obesa* (Fabricius, 1798)

Another species which is not at all abundant in Kent. H.W. Andrews recorded it from Farningham (TQ5467) on 27 August 1927 whilst Allen ((1963) referred to its sporadic occurrence in his garden at Blackheath Park (TQ4075). Mr P.J. Chandler (pers. comm.) encountered it in an arable field at Oakley Farm, Bromley (TQ44166) and in a larch plantation at Scrogginhall Wood, Bromley (TQ413673) on 16 September 1967 and 11 September 1971 respectively. In the card index at Maidstone Museum and Art Galleries there are just two other records both from the fieldwork of K.C.Side: 7 July 1974 New Hythe TQ75E and 23 August 1974 nr. Meopham TQ66H.

21 August 1994 Vinters Park LNR TQ7756 a few males and females swept from the flowers of *Matricaria* sp.; 28 August 1994 Roadside Wood TQ647552 numerous specimens of both sexes swept from ling *Calluna vulgaris* (L.) Hull. in open, sandy heathland.; 1 June 1997 Mereworth Woods TQ644556 1 male; 19 August 1997 Ditton Court Quarry TQ7517 several males observed feeding on the flowers of tansy *Chrysanthemum vulgare* (L.) Bernh. and garden golden rod *Solidago canadensis* L.

Allen (1963) recorded *Phasia obesa* as a parasite of the pentatomid bug *Neotiglossa pusilla* (Gmelin, 1789) whilst Belshaw (1993) listed a range of other hemipteran hosts, some of which are doubtful. The local records suggest that the fly is characteristic of dry grassland.

#### *Phasia pusilla* Meigen, 1824

This small, black fly was recorded from Gravesend (TQ67) by Yerbury (1908) and subsequently from other localities in the west of the county by H.W. Andrews i.e. 13 July 1920 Eltham (TQ4374); 9 August 1922 Dartford (TQ57); 11 June 1927 Bexley (TQ4774); 27 August 1927 Farningham (TQ5467); 28 July 1930 Farningham (TQ5467) and 11 August 1934, 27 June 1943 and 30 June 1945 Eynsford (TQ5365). Allen (1963) stated that it occurred sporadically in his garden at Blackheath Park (TQ4075). In the collections of the Natural History Museum in London there is a single specimen taken at Eastling Wood (TR3047) by E.A. Fonseca on 3 August 1951. Mr P.J. Chandler (pers. comm.) encountered it in an arable field at Oakley Farm, Bromley (TQ44166) on 16 September 1967. Further records obtained from the Maidstone Museum card index are 1 August 1976 Shorne TQ67V K.C. Side; 3 September 1990 Wrotham Water TQ6260 P.J.Hodge and 4 August 1992 Canon Heath TQ6957 E.G. Philp.

27 June 1983 Murston TQ914644 dry derelict grassland; 10 August 1983 Murston TQ922653; 9 August 1992 Angley Wood TQ7636 along sandy woodland ride; 12 September 1992 Crayford marshes TQ5378 coastal grassland; 3 July 1993 Eccles Pit TQ7261 dry chalk pit; 1 June 1994 Mereworth Woods TQ663553 grassy ride; 19 June 1994 Lullingstone Park TQ5164 dry chalk grassland; 21 August 1994 Vinters Park LNR TQ7756 open parkland; 28 August 1994 Mereworth Woods TQ663553; 28 August 1994 Roadside Wood TQ647552 sandy heathland; 9 June 1996 Birchett Wood TQ987359 open ride in wood; 7 July 1996 Church Marshes, Milton TQ9165 dry coastal grassland; 14 July 1996 Angley Wood TQ7636 along sandy woodland ride; 14 May 1997 Denge Wood TR106528 dry chalk grassland; 19 May 1997 Hargate Forest TQ5737 open ride in dry woodland; 19 May 1997 Hargate Forest TQ5736 open ride in dry woodland; 1 June 1997 Mereworth Woods TQ644556 clearing in chestnut coppice; 15 June 1997 Ditton Court Quarry TQ7157 dry grassland in disused ragstone quarry; 2 September 1997 Birchett Wood TQ987359 on flowers of golden rod *Solidago virgaurea* L.

*Phasia pusilla* is recorded as a parasite of the bugs *Cydnius* (Cydniidae) and *Chilacis* (Lygaeidae) by Van Emden (1954) and *Stygnocoris fuliginus* (Geoffroy, 1785) and *S. pedestris* (Fallén, 1807) (Lygaeidae) by Eyles (1962). The fly is locally a species of dry grassland and dry woodland.

#### *Subclytia rotundiventris* (Fallén, 1820) (RDB3)

I obtained a single male of this species by sweeping bracken *Pteridium aquilinum* (L.) Kuhn beneath silver birch *Betula pendula* Roth during a Kent Field Club excursion on 5 July 1997 to Hothfield Common LNR near Ashford TQ97054575. The usual British hosts are the acanthosomatid bugs *Elasmostethus interstinctus* (Linnaeus, 1758) (Allen, 1966) and *Elasmucha grisea* (Linnaeus, 1758) both of which are widespread and often abundant on birch.

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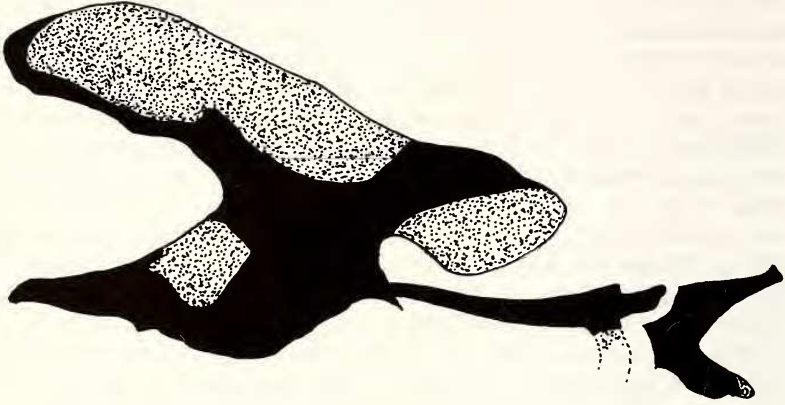


Figure 1: *Hemyda vittata*: part of cephalopharyngeal skeleton from puparium.

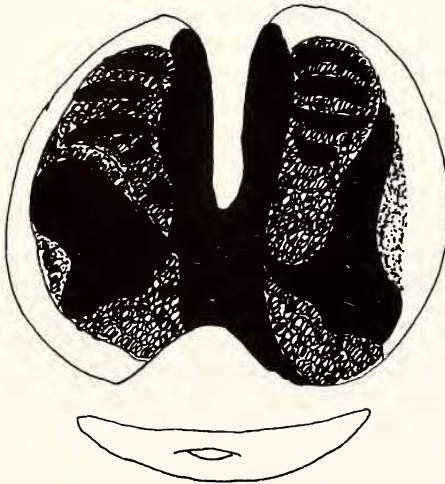


Figure 2: *Hemyda vittata*: posterior spiracles of puparium.



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